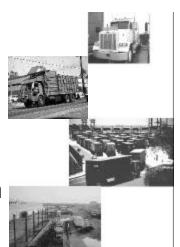
### Opportunities to Reduce Emissions at Marine Ports

Henry Hogo, Assistant Deputy Executive Officer Science and Technology Advancement

South Coast Air Quality Management District

# SCAQMD Air Toxic Control Plan - Mobile Source Strategies

- Fuel Specification
- · After-treatment Technologies
- Engine Design Modifications
- Alternatively-Fueled Vehicles
- Goods Movement
- Engine Idling Time Reduction
- Locomotives
- · Locomotive Idling



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# SCAQMD Air Toxic Control Plan - Mobile Source Strategies

- Commercial Motorboats, Ships, and Tugs
- · Airport Emissions
- Aviation Gasoline (lead)
- Off-Road Utility and Mobile Equipment
- Catalysts for Gasoline Powered Vehicles









#### Heavy-Duty Vehicles/Equipment

- AQMD Credit Rule for Refrigeration Units
- Promote Use of Cleaner Off-road Equipment (Forklifts, Yard Tractors)
- Promote Cleaner Burning and Alternative-fuel Vehicles for Captive Fleets (All Vehicle Sizes)
- Electrification at Loading Docks

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#### Heavy-Duty Diesel Truck Emissions

- New California Heavy-Duty Standards: October 2002 (not all manufacturers)
  2004 (all manufacturers)
- Low-Sulfur Diesel 2005 (AQMD Rule 431.2)
- Low-Sulfur diesel 2007 (Federal)
- VOC, NOx & PM 2008 (State & Federal)

## Heavy-Duty Diesel Truck Emissions (cont.)

- Develop Programs to Reduce Emissions (On road / Off-road)
  - Repowers, PM Trap
  - NOx?
- Promote Alt.-Fueled Truck Applications
- State PM & NOx Mitigation Programs

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#### **Existing Funded Projects**

Marine Vessels

–Number of Vessels: 130

-Funded Level: \$19.5 M

–Emission Reduction: 1389 tpy - NOx

55 tpy - PM

<u>Landside Equipment</u>

–Number of Equipment: 110

Funding Level: \_\_Emission Reduction: \$2.7 M

164 tpy - NOx

10 tpy - PM

#### **Diesel Locomotive Emissions**

#### **Current Status:**

- Railroad MOU -67% reduction in NOx by 2010
- Industry to Bring Cleanest Engines Into Basin
- Dev. of Cleaner Locomotive Engines

# Diesel Locomotive Emissions (cont.)

#### **Opportunities:**

- Work w/ Industry to Use Low-Sulfur Diesel
- Programs to Reduce Locomotive Idling
- Demonstrate New Technologies (Alternative-Fuel Engines; PM Traps)

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